DoD ADS-B Cost Estimate Results

FAA Industry Day

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Overview

- Purpose and Scope
- Methodology
- Defense Department Considerations
- Cost Summary Results

Purpose

- **Assess DoD ADS-B Implementation Costs**
  - **Assist FAA Decision Process**
  - **Support Defense Department Avionics Planning**

This study does not constitute a DoD commitment to implement ADS-B

Scope

- **Ground Systems and Facilities not Considered**
- **All DoD Aircraft Included - Seven Broad Categories**

Aircraft Categories

Unmanned Aerial Vehicles

Fighters

Transport/Cargo

Bombers

Helicopters

Special Mission

Trainers

Scope

- **Ground Systems and Facilities not Considered**
- **All DoD Aircraft Included - Seven Broad Categories**
- **Full Life Cycle Cost Estimate Including Development, Production and Sustainment**

Methodology

- **Selection Based on . . .**
  - **FAA Safe Flight 21 Report**
  - **FAA Industry Survey**
  - **Minimum DoD Equipage**
- **Seven ADS-B Combinations Considered . . .**
  - **Single Link:**
    - **VDL-4**
    - **UAT**
    - **1090 Extended Squitter (1090) - Transmit/Receive**
    - **1090 Extended Squitter (1090) – Transmit Only**
  - **Dual Link: 1090/UAT or 1090/VDL-4**
  - **Multi-Link: VDL-4, UAT and 1090**

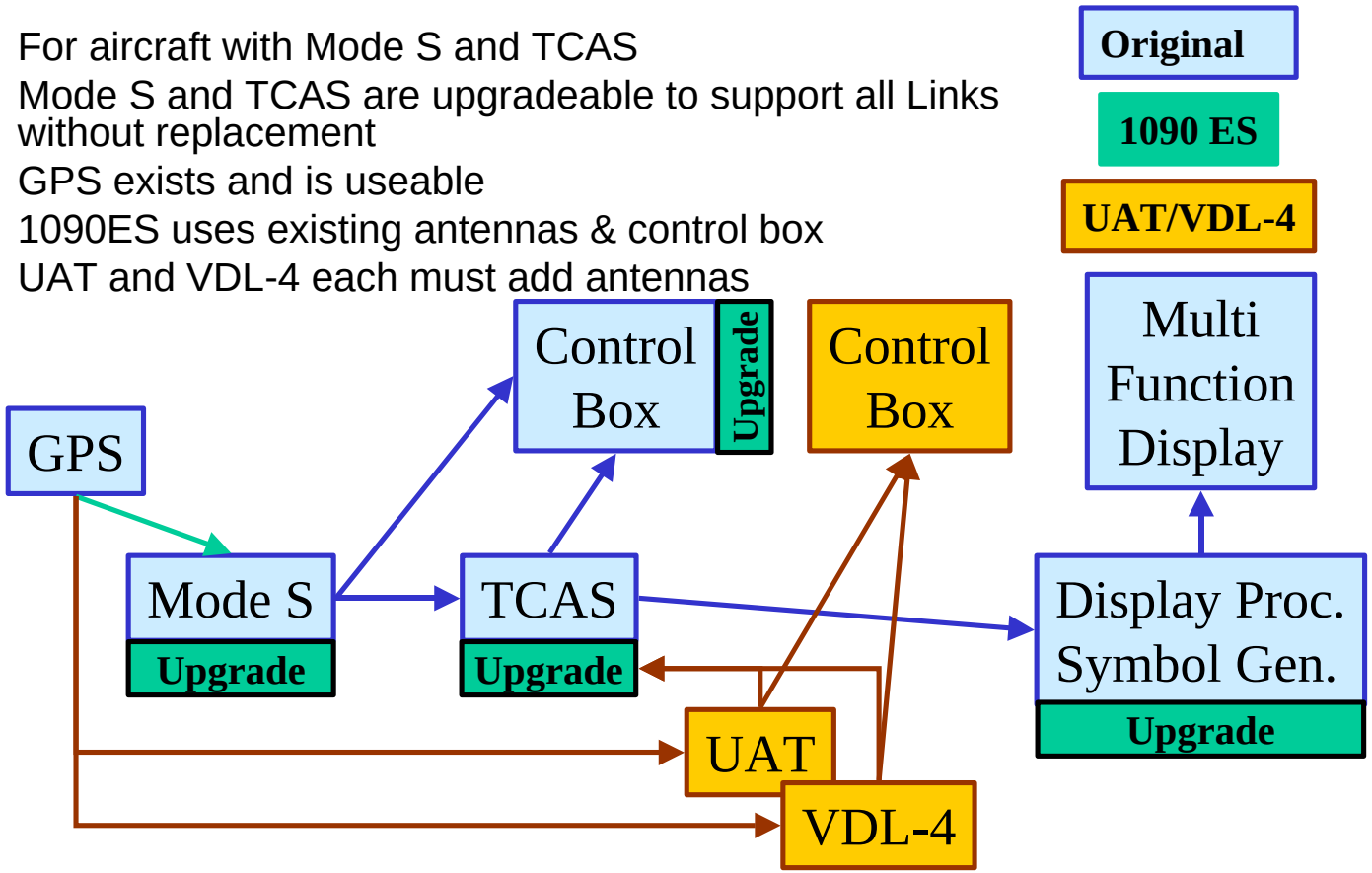
Special Considerations

Integration	• Each aircraft platform has different prime contractor • Fighter/helicopter/UAV platforms are all space/power/weight constrained • RF interference considerations
Antennas	• New antennas needed for VDL-4 and UAT – No installed spares • Mode S/TCAS antennas can be used for 1090ES
Certification	• Considered separately • Certification costs may be higher (self certification)
Installed Capabilities	• Most mobility aircraft already have modern MFDs • DoD platforms have latest TCAS and Mode S units

Sample Architecture:

Multi-Link Architecture with TCAS II

- For aircraft with Mode S and TCAS
- Mode S and TCAS are upgradeable to support all Links without replacement
- GPS exists and is useable
- 1090ES uses existing antennas & control box
- UAT and VDL-4 each must add antennas



ADS-B Cost Summary by Aircraft Type (TY $M)

Aircraft Type	Aircraft Quantity	ALTERNATIVES (TY $M)				
		1090	1090 Transmit Only	UAT or VDL-4	1090 and either UAT or VDL-4	All Three
Bombers	187	205	12	280	291	328
Fighters	3,727	1,860	218	2,705	2,917	3,598
Helicopters	5,197	3,271	309	4,404	4,747	5,700
Information Dominance/Special Mission	1,080	810	77	1,179	1,162	1,369
Mobility (Tanker Transport)	2,136	389	137	830	934	1,314
Trainers	1,102	635	164	804	867	1,060
UAV	85	9	6	27	33	48
Total DoD Fleet	13,514	7,179	923	10,229	10,951	13,417

Summary by Aircraft Type